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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,107	07/23/2001	Robert Russell Cutlip	5577-242	4001
20792	7590	01/25/2005		
MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
EXAMINER PROCTOR, JASON SCOTT				
ART UNIT		PAPER NUMBER		
2123				

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n N .	Applicant(s)	
	09/911,107	CUTLIP, ROBERT RUSSELL	
	Examiner	Art Unit	
	Jason Proctor	2123	

-- The MAILING DATE of this communication appears on the c ver sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/14/2002</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. Claims 1-30 have been presented for examination.
2. Claims 1-30 have been rejected.

Claim Objections

3. Claims 2 and 12 are objected to because of the following informalities: failure to end with a period. See MPEP 608.01(m). Appropriate correction is required.
4. Claims 9, 19, and 29 each recite, "if monitoring the selection indicates that a plurality of the bundle of messages fails to provide both the m related messages and the n unrelated messages" which appears to contain a typographical error. The Examiner presumes the plural "bundles of messages" is intended. Appropriate correction is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-5, 10, 11-15, 20, 21-25, and 30 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 1-5 and 10, MPEP 2106(II)(A) states:

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03,

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26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

The invention of claims 1-5, 10, 11-15, 20, and 21-25 do not produce a concrete and tangible result. Although the method of claim 1 recites a step of filtering simulated network traffic, the resulting filtered traffic is not used for any useful function. In contrast, claim 6 recites that the messages are ordered, chained, and streamed in order to simulate network traffic, granting claims 6-9 a concrete and tangible result: simulated network traffic. Claims 11-15, 20, 21-25, and 30 are rejected under similar reasoning.

6. The Examiner respectfully suggests claim language similar to:

A method of simulating network traffic, comprising:
filtering simulated network traffic messages by using the predefined inputs m and n , defining a known Ramsey number, to select m related messages and n unrelated messages from a randomly generated graph of simulated network traffic messages; and
streaming the m related messages and the n unrelated messages to simulate network traffic.

7. To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. § 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-30 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 1, 11, and 21 each recite a limitation including "filtering simulated network traffic utilizing known Ramsey numbers" which renders these claims indefinite. It is unclear to the Examiner what patent protection is sought by this claim beyond the limitations of claims 4-9, 14-19, and 24-29. Claims 4-9, 14-19, and 24-29 recite a particular method of filtering simulated network traffic, which is enabled by the disclosure, while claims 1-3, 11-13, and 21-23 encompass every conceivable method of filtering simulated network traffic using Ramsey numbers that produce related and unrelated messages.

11. Claims 10, 20, and 30 expand this limitation to comprise both known Ramsey numbers and Ramsey numbers known within bounds. These claims suffer from the same indefiniteness present in claims 1, 11, and 21.

12. Claims 3, 13, and 23 recite limitations wherein the first predefined number comprises a clique of order m and the second predefined number comprises an independent set of order n which renders these claims vague and indefinite. It is unclear how a number can comprise a clique or how a number can comprise an independent set. For example, a clique of order 3 is a complete graph on 3 vertices and resembles a triangle. It is unclear to the Examiner how a number would comprise a triangle, or equivalently, a complete graph on 3 vertices. The understood definitions of clique and independent set do not lend themselves to any equivalence relation with a number.

13. Claims 4, 14, and 24 recite limitations including “further comprising the step of generating the simulated network traffic so as to provide a bundle of messages corresponding to the selected known Ramsey number” which renders these claims vague. It is unclear what property of the “bundle of messages” is intended to correspond to the known Ramsey number. As set forth by the specification, a “bundle of messages” has no inherent properties that make clear how it would relate to a known Ramsey number.

14. Similar rejections are made for claims 5, 15, and 25 where these claims refer to “the bundle of messages corresponding to the selected known Ramsey number.”

15. Claims 8, 18, and 28 recite limitations including “generating simulated network traffic utilizing a plurality of non-linear functions and wherein the step of modifying the generation of the bundle of messages comprises the step of adding at least one additional non-linear function to the plurality of non-linear functions” which renders these claims vague. Several interpretations exist for using non-linear functions to generate a “bundle of messages”. As a “bundle of messages” appears to be an undirected graph where the nodes represent network messages, it is unclear whether the term “non-linear functions” refers to a programming language subroutine that produces a return value (known as a function in languages such as C, C++, and others) with a time complexity not equal to $\Theta(n)$ (non-linear), where n represents the size of the input, or if the term refers to an algebraic function wherein some exponent of the independent variable is

not equal to unity. If the latter is correct, it is unclear how to create a "bundle of messages", an undirected graph where the nodes represent network messages, from an algebraic function. In either case, the Examiner is unable to locate clarification for this term in the specification and has interpreted the claim accordingly.

16. Claims not specifically mentioned stand rejected by virtue of their dependence.

Claim Interpretation

17. In the interest of compact prosecution, examiner makes the following claim interpretations in order to apply prior art to the claims. See *Ex parte Ionescu*, 222 USPQ 537 (Bd. Pat. App. & Inter. 1984).

18. The Examiner has attempted to interpret the claimed inventions according to the specification, specifically page 8, line 14 – page 9, line 3 and page 10, lines 4-30.

19. Claim 1 is interpreted as:

A method of simulating network traffic, comprising:
filtering simulated network traffic utilizing known Ramsey numbers so as to provide a first predefined number of related messages and a second predefined number of unrelated messages; and
streaming the m related messages and the n unrelated messages to simulate network traffic.

20. Claim 2 is interpreted as submitted.

21. Claim 3 is interpreted as:

The method of Claim 2, wherein the buy messages correspond to a clique of order m specified by a known Ramsey number and the browse messages correspond to an independent set of order n specified by the known Ramsey number.

22. Claim 4 is interpreted as:

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The method of claim 3, further comprising the step of generating the simulated network traffic so as to provide a bundle of messages where the number of messages corresponds to the selected known Ramsey number.

23. Claims 5 is interpreted as:

The method of claim 4, wherein the step of filtering comprises the steps of:
selecting m related messages from the bundle of messages; and
selecting n unrelated messages from the bundle of messages.

24. Claim 6 is interpreted as:

The method of claim 5, further comprising the steps of:
ordering the selected m related messages;
chaining the selected m related messages; and
streaming the m related messages and the n unrelated messages to simulate network traffic having buy and browse messages.

25. Claims 6-7 are interpreted as submitted.

26. Claim 8 is interpreted to the extent that it is enabled according to page 8, lines 19-23, as follows:

The method of claim 7, wherein the step of generating simulated network traffic comprises the step of generating simulated network traffic utilizing methods known in the art.

27. Claim 9 is interpreted as submitted.

28. Claim 10 is interpreted as:

The method of claim 1, wherein predefined inputs m and n define either a known Ramsey number or a Ramsey number known within bounds.

29. Claims 11-20 and 21-30 recite a system and computer program product corresponding to the method of claims 1-10 and are interpreted congruently to claims 1-10 above.

Claim Rejections - 35 USC § 103

30. Claims 1-30 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Howard et al. US Patent No. 6, 278, 966, hereafter referred to as Howard.

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31. Regarding claim 1, Howard teaches a method for emulating a visitor of a web site (column 4, lines 35-62), thereby simulating network traffic. Howard teaches two types of visitors to emulate and therefore two types of network traffic. Howard teaches "lifelike" and "hypothetical" visitors (column 11, line 41-column 12, line 14), wherein the lifelike visitor selects the next link according to a uniform distribution and the hypothetical visitor randomly selects the next link. The lifelike emulated visitor therefore results in related simulated network traffic while the hypothetical visitor results in unrelated simulated network traffic.

32. Howard does not explicitly teach that the invention for website testing can be automated, but the advantages of automating test procedures are well known in the art, for example the easy acquisition of large amounts of test data. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention in combination with his own knowledge of the particular art to automate the website testing invention of Howard. In doing so, it would have been obvious to automate the invention by adapting it to perform multiple test procedures of the type explicitly taught by Howard. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention in combination with his own knowledge of the particular art to further modify the invention of Howard to allow configuration with regard to the selection of lifelike and hypothetical visitors. Using the table of known Ramsey numbers would be functionally equivalent to any other selection scheme, and therefore would have been obvious to a person of ordinary skill in the art. The motivation for a person of

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ordinary skill to perform this combined modification would come from his own knowledge regarding the advantages of automated testing procedures.

33. Regarding claim 2, Howard does not explicitly disclose that the simulated network traffic comprises buy and browse behavior. Howard does teach that the lifelike emulated user's behavior may depend upon events such as a recently viewed page (column 9, lines 1-5) and that, in general, the emulated visitors can be configured to act similar to observed actual visitors (column 8, lines 1-13; column 11, lines 28-40). It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention that Howard's teaching of emulated visitors could be defined as buy and browse behavior, resulting in buy and browse messages, when the website being tested has actual users who buy and browse. Howard provides means for configuring the emulated visitors into buy and browse behavior (column 11, line 41-column 12, line 14).

34. Regarding claim 3, Howard does not explicitly teach that a first number of related messages corresponds to a clique of order m and the second number of unrelated messages corresponds to an independent set of order n , both specified by the known Ramsey number. In the combination formed in the rejection of claim 1, the use of a table of known Ramsey numbers would make obvious to a person of ordinary skill in the art at the time of Applicant's invention, in combination with his own knowledge of the particular art, the use of m and n to define how many users to emulate exhibiting the related and unrelated behavior. The motivation for doing so would be the observation that the table of known Ramsey numbers includes m and n , corresponding to the clique

and independent set sizes, and would therefore be immediately adaptable for use in the combined invention.

35. Regarding claims 4 and 5, Howard teaches that the disclosed invention “substantially emulates actual web site traffic” (column 3, lines 12-17) and teaches how to configure the invention to emulate actual visitors at numerous citations (column 8, lines 1-13; column 11, lines 28-40; among others). Howard clearly teaches the generation of network traffic that emulates actual web site traffic, while actual web site traffic is well known to occur in bundles of messages. In the combination formed in the rejection of claim 1, it would be obvious to a person of ordinary skill in the art that the combined invention would generate a bundle of messages corresponding to the known Ramsey number. The combined invention generates a bundle of messages for each emulated visitor, and as the number of each type of visitor corresponds to the known Ramsey number, generates a bundle of messages corresponding to the Ramsey number.

36. Regarding claim 6, Howard does not explicitly teach ordering, chaining, and streaming the messages, however Howard does teach that the disclosed invention “substantially emulates actual web site traffic” (column 3, lines 12-17). It would have been obvious to a person of ordinary skill in the art at the time of Applicant’s invention in combination with his own knowledge of the particular art to order, chain, and stream the messages in order to emulate actual web site traffic and thereby perform a test with greater fidelity. The combination could be achieved by generating the emulated web site traffic taught by Howard as desired.

37. Regarding claims 7-9, Howard does not explicitly teach monitoring the selection of messages or modifying the bundle of messages if the bundle of messages fails to provide both the m related and n unrelated messages. However, it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention in combination with his own knowledge of the particular art to generate the bundle of messages so that they conform to whatever desired properties the designer intends. Failure to do so would result in an unreliable test tool.

38. Regarding claim 10, Howard does not explicitly teach using known Ramsey number or Ramsey numbers known within bounds. However, in the combination formed in the rejection of claim 1, nothing precludes using a table of known Ramsey numbers and Ramsey numbers known within bounds to achieve the same result. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to use a table of known Ramsey numbers and Ramsey numbers known within bounds so that more configuration options are available to the web site test tool.

39. Claims 11-20 and 21-30 recite a system and a computer program product tangibly embodied on a computer readable medium, both of which perform the method recited by claims 1-10. As the invention of Howard is a computer-implemented method and system (column 15, lines 14-42), these claims stand rejected for the reasons given above for claims 1-10.

Conclusion

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Art considered pertinent by the examiner but not applied has been cited on form PTO-892.

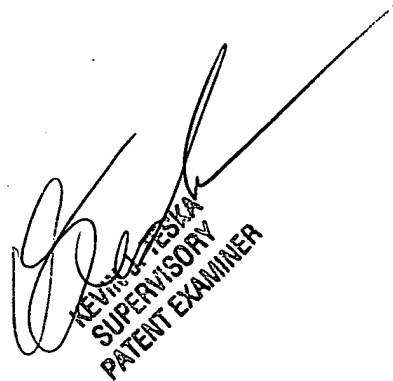
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J Teska can be reached on (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Proctor
Examiner
Art Unit 2123

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